**REMARKS**

Claims 1, 2, 43, 46-48 and 52-59 are pending in the subject application. By this Amendment, applicants have canceled claims 43, 48, 52, 53, 56 and 57 without disclaimer or prejudice to applicants' right to pursue the subject matter of these claims in the future, and have amended claims 54, 55, 58 and 59 and added new claims 60-66.

Applicants note that the amendments to claims 54, 55, 58 and 59 merely reduce the dependencies of these claims, as necessitated by the cancellation of claims 52, 53, 56 and 57. Applicants note also that new claims 60-62 and 63-66 correspond to claims 43 and 48, respectively, which have been canceled herein. Claim 43 has been rewritten as claims 60-62 so as to depend from preceding claims, and to avoid having a multiple dependent claim depend from another multiple dependent claim as claim 43 did, contrary to 35 U.S.C. 112, fifth paragraph. Similarly, claim 48 has been rewritten as claims 63-66 for the same reasons. In new claims 60-66, the former references in claims 43 and 48 to now-canceled claims have also been deleted. Thus, applicants maintain that the amendments to claims 54, 55, 58 and 59 and the introduction of new claims 60-66 raise no issue of new matter. Accordingly, applicants respectfully request that the Examiner enter this Amendment. Upon entry of this Amendment, claims 1, 2, 46, 47, 54, 55 and 58-66, as amended, will be pending and under examination.

**Objections under 37 C.F.R. 1.75(c)**

The Examiner objected to claims 43 and 48 under 37 C.F.R. §1.75(c) as allegedly being of improper dependent form for failing to further limit the subject matter of a previous claim.

The Examiner stated that the claims do not refer back in the alternative only, or refer to a preceding claim, or reference two sets of claims with different features, or reference another multiple dependent claim. The Examiner also stated that, for instance, claim 43 references subsequent claims 52-55 whereas claim 48 references subsequent claims 56-59. The Examiner requested that applicant cancel the claim(s) and rewrite them in proper dependent form, amend the claim(s) to place them in proper dependent form, or rewrite the claim(s) in independent form (citing M.P.E.P. §608.01(n)).

In response, applicant notes that claims 43 and 48 have been canceled and rewritten as claims 60-62 and 63-66, respectively, which now all depend from preceding claims. Applicants maintain that new claims 60-66 are written in proper dependent form to further limit the subject matter of previous claims from which they depend. Applicants therefore respectfully request that the Examiner withdraw this ground of objection.

**Domestic priority claimed under 35 U.S.C. §119(e) and §120**

The Examiner acknowledged applicant's claim for domestic priority under 35 U.S.C. §119(e) and §120. However, the Examiner stated that the applications from which priority is claimed fails to provide adequate support under 35 U.S.C. §112, first paragraph, for claims 52-59, 43, and 48. The Examiner also stated that the earlier referenced applications fail to disclose compositions comprising an admixture containing T-1249 (SEQ ID NO:6). The Examiner further stated that, accordingly, for the purposes of applying prior art, the effective filing date for these claims is that of the instant application, i.e., July 25, 2001.

In response, without conceding the correctness of the Examiner's

position, applicants note that claims 52, 53, 56 and 57 have been canceled; claims 43 and 48 have been canceled and rewritten in amended form as new claims 60-62 and 63-66, respectively; and claims 54, 55, 58 and 59 have been amended as described hereinabove. Applicants assert that U.S. Serial No. 09/663,219, filed September 15, 2000, from which the subject application claims priority, provides adequate support under 35 U.S.C. §112, first paragraph, for, *inter alia*, claims 54, 55, 58 and 59, as amended, and new claims 60-66. See the specification of U.S. Serial No. 09/663,219 at, for example, page 13, lines 8-31; page 16, lines 10-28; page 17, line 35 to page 18, line 6; page 21, lines 25-30; page 22, lines 3-6 and line 34 to page 23, line 7; page 24, lines 9-18 and page 25, line 25 to page 26, line 14. Applicants maintain, therefore, that these claims are entitled to an effective filing date of September 15, 2000.

**Rejections under 35 U.S.C. §103(a)**

Claims 1, 2, 43, 46-48, 53 and 57

The Examiner rejected claims 1, 2, 43, 46-48, 53 and 57 under 35 U.S.C. §103(a) as allegedly unpatentable over Olson et al. (J. Virol. [1999] 73:4145-4155) in view of Barney et al. (U.S. Patent No. 6,258,782, issued July 2001). The Examiner stated that the claims have been amended to recite a composition comprising an admixture of mAb PA14 and either peptide T20 or T1249, or mAb PA14, CD4-IgG2, and either peptide T20 or T1249. The Examiner further stated that Olson and colleagues disclose the isolation and characterization of six novel anti-CCR5 mAbs, one of which is designated PA14. The Examiner also stated that this mAb appears to be identical to the antibody currently being claimed. The Examiner noted that the authors reported that this antibody was capable of inhibiting

HIV-1 entry and fusion. The Examiner stated that this publication also discloses compositions comprising both mAb PA14 and CD4-IgG2. The Examiner also stated that these compounds were capable of inhibiting viral replication.

The Examiner acknowledged that Olson et al. do not disclose the peptides T20 or T1249, but stated, however, that Barney and colleagues provide both peptides T20 and T1249, and indicate that they are potent inhibitors of HIV-1 fusion and entry. The Examiner asserted that it would therefore have been *prima facie* obvious to one having ordinary skill in the art at the time the invention was made to combine the art-recognized antiviral agents described by Olson et *al.* (1999) and by Barney *et al.* (2001) into a single composition for the inhibition of HIV-1 replication. The Examiner contended that the instant situation is amenable to the type of analysis set forth in *In re Kerkhoven*, 205 U.S.P.Q. 1069 (C.C.P.A. 1980), wherein the court held that it is *prima facie* obvious to combine two compositions each of which is taught by the prior art to be useful for the same purpose in order to form a third composition that is to be used for the same purpose since the idea of combining them flows logically from their having been individually taught in the prior art.

In response, applicants respectfully traverse and maintain that the Examiner has failed to establish a *prima facie* case of obviousness of claims 1, 2, 43, 46-48, 53 and 57. Applicant notes that, according to M.P.E.P. §2142, the Examiner bears the initial burden of factually establishing a *prima facie* case of obviousness, and to do so, three basic criteria must be met. First, there must be some suggestion or motivation, either in prior art references themselves or in the knowledge of a skilled artisan, to modify the reference or to combine reference

teachings. Second, there must be a reasonable expectation of success. Third, the prior art reference, or references when combined, must teach or suggest all the claim limitations.

Applicants note again that claims 43, 48, 53 and 58, rejected above, have been canceled. Applicants also maintain that claims 1, 2, 46, 47, and 57, as amended, as well as new claims 60-66, which correspond to canceled claims 43 and 48, are entitled to an effective filing date of September 15, 2000, based on priority of U.S. Serial No. 09/663,219. See the specification of U.S. Serial No. 09/663,219 at, for example, page 13, lines 8-13; page 16, lines 10-28; page 17, line 35 to page 18, line 6; page 21, lines 25-30; page 22, lines 3-6 and line 34 to page 23, line 7; page 24, lines 9-18 and page 25, line 25 to page 26, line 14. Thus, applicants maintain that Barney (2001) is not a prior art reference and, accordingly, cannot be used to establish a *prima facie* case of obviousness under 35 U.S.C. §103(a).

Moreover, applicants note that each of the combinations of mAb PA14 and peptide T20, or mAb PA14, CD4-IgG2, and peptide T20, recited in the instant claims, as amended, exhibit a significant and unexpected synergistic effect in inhibiting HIV-1 infection of a CD4+ cell, compared to the anti-HIV-1 activity of these agents when administered individually as disclosed in the prior art. See the specification at, *inter alia*, page 11, line 32 to page 12, line 31; Figures 4 and 5; page 16, line 25 to page 17, line 3; Figures 21 and 22; page 44, lines 10-23. Thus, applicants maintain that even if, *arguendo*, the Examiner had established a *prima facie* case of obviousness (which he has not), the wholly unexpected and synergistic results exhibited by the combinations would overcome such a *prima facie* case of obviousness.

In view of the foregoing remarks, applicants respectfully request that the Examiner reconsider and withdraw this ground of rejection.

Claims 54, 55, 58 and 59

The Examiner rejected claims 54, 55, 58, and 59 under 35 U.S.C. §103(a) as allegedly unpatentable over Olson et al. (1999) in view of Barney et al. (2001), as applied *supra* to claims 1, 2, 43, 46-48, 53, and 57, and further in view of Winter (U.S. Patent No. 5,225,539, issued July 1993). The Examiner stated that the claims require that the mAb of interest comprise a humanized portion. The Examiner also stated that Winter provides a detailed description of how to make humanized mAbs and identifies the advantages of doing so. The Examiner asserted that it would therefore have been *prima facie* obvious to one having ordinary skill in the art at the time the invention was made to modify mAb PA14 to include humanized portions, since humanized antibodies would reasonably be expected to be less immunogenic and more efficacious than their murine counterparts when administered to a human host.

In response, applicants respectfully traverse the instant rejections. Applicants reiterate that claims 54, 55, 58 and 59, as amended, are entitled to an effective filing date of September 15, 2000. Accordingly, applicants note that Barney (2001) is not a prior art reference with regard to claims 54, 55, 58 and 59, as amended. Applicants maintain, therefore, that (1) since Barney (2001) is not a prior art reference, it cannot be used to establish a *prima facie* case of obviousness under 35 U.S.C. §103(a); and (2) even if, *arguendo*, a *prima facie* case of obviousness could be established, the unexpected synergy exhibited by the combinations of mAb PA14 and peptide T20, or mAb

PA14, CD4-IgG2, and peptide T20, recited in the instant claims, as amended, would overcome such a *prima facie* case of obviousness.

Applicants therefore respectfully request that the Examiner reconsider and withdraw this ground of rejection.

Claims 43, 48, 52 and 56

The Examiner also rejected claims 43, 48, 52 and 56 under 35 U.S.C. §103(a) as allegedly unpatentable over Trkola et al. (J. Virol. [1995] 69:6609-6617) in view of Barney et al. (2001). The Examiner stated that the claims have been amended to recite a composition comprising an admixture of CD4-IgG2 and either peptide T20 or T1249. The Examiner also stated that Trkola and colleagues disclose the isolation and characterization of a potent antiviral agent consisting of tetrameric CD4-IgG2, an immunological reagent which appears to be identical to the fusion protein currently being claimed. The Examiner noted that the authors reported that CD4-IgG2 was capable of neutralizing different strains of HIV-1. The Examiner acknowledged that this teaching does not disclose an admixture comprising peptide T20 or T1249, but stated, however, that Barney and colleagues provide both peptides T20 and T1249, and indicate that they are potent inhibitors of HIV-1 fusion and entry. The Examiner asserted that it would therefore have been *prima facie* obvious to one having ordinary skill in the art at the time the invention was made to combine the art-recognized antiviral agent described by Trkola et al. (1995) and Barney et al. (2001) into a single composition for the inhibition of HIV-1 replication. The Examiner contended that the instant situation is amenable to the type of analysis set forth in *In re Kerkhoven*, wherein the court held that it is *prima facie* obvious to combine

two compositions each of which is taught by the prior art to be useful for the same purpose in order to form a third composition that is to be used for the very same purpose since the idea of combining them flows logically from their having been individually taught in the prior art.

In response, applicants respectfully traverse the instant rejections. Applicants note that claims 52 and 56 have been canceled and the subject matter of these claims is not represented in any of the pending claims. Applicants respectfully submit, therefore, that the grounds for rejecting claims 52 and 56 are moot.

Applicants note also that claims 43 and 48 have been canceled and replaced by new claims 60-62 and 63-66, respectively. Thus, applicants respond to the instant rejections of claims 43 and 48 as if they referred to new claims 60-66. In this regard, applicants assert that each of claims 60-66 is entitled to an effective filing date of September 15, 2000, based on priority of U.S. Serial No. 09/663,219. Accordingly, applicants maintain that Barney (2001) is not a prior art reference with regard to new claims 60-66. Therefore, as discussed hereinabove, applicants maintain that (1) Barney (2001) cannot be used to establish a *prima facie* case of obviousness of new claims 60 and 61 under 35 U.S.C. §103(a); and (2) even if, *arguendo*, a *prima facie* case of obviousness could be established, the unexpected synergy exhibited by the combinations of antiviral agents recited in new claims 60-66 would overcome this *prima facie* case of obviousness.

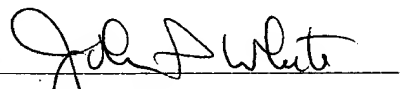
Applicants therefore respectfully request that this ground of rejection be withdrawn.

In view of the remarks made hereinabove, applicants respectfully request that the Examiner reconsider and withdraw the claim rejections set forth in the January 26, 2005 Final Office Action. Applicants maintain that all claims pending in the subject application, i.e., claims 1, 2, 46, 47, 54, 55 and 58-66, as amended, are in condition for allowance, and earnestly solicit allowance of all these pending claims.

If a telephone interview would be of assistance in advancing prosecution of the subject application, applicants' undersigned attorney invites the Examiner to telephone him at the number provided below.

A fee of SIXTY DOLLARS ($60.00) is required for a one-month extension of time for responding to the January 26, 2005 Final Office Action, and a check for this amount is enclosed. No other fee is deemed necessary in filing this response. However, if any additional fee is required, authorization is hereby given to charge the amount of any such fee to Deposit Account No. 03-3125.

Respectfully submitted,



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I hereby certify that this correspondence is being deposited this date with the U.S. Postal Service with sufficient postage as first class mail in an envelope addressed to:
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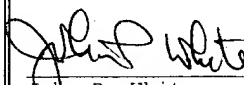

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